## For a neurological and psychiatric follow-up of long forms of Covid-19

## Press release<sup>1</sup> of the French National Academy of Medicine (\*)

SARS-CoV-2 infection causes neurological-like symptoms in both adults and children. In the acute phase, these symptoms raise questions about their relationship with the viral infection, their mechanism and their consequences on the future of patients.

Their occurrence or persistence beyond 4 weeks characterizes the long form of Covid-19, a still poorly defined entity whose polymorphic symptomology is often neurological or psychiatric in expression. These frequent and unusual forms still raise questions about their organic nature.

However, the possibility of sequelae corresponding to perennial symptoms is now mentioned by several follow-up studies of infected patients. They mainly affect the neuro-psychiatric sphere, but long-term persistent symptoms are also observed elsewhere, such as the respiratory, cardiovascular, neurosensory and endocrine systems (2-4).

Beyond the symptoms, such as fatigue, memory complaint, concentration difficulties, insomnia with non-restorative sleep, hypersomnia, mood disorders, or pain limited to headache or diffuse, several series reflect a decline in cognitive performance in nearly 10% of long Covid-19s, one year after infection (5-6).

At the same time, recent neuroimaging studies (MRI, molecular imaging) show that structural and functional lesions of the brain parenchyma appear over time in infected patients, suggesting an organic damage likely to validate the reality of sequelae. It is not certain that these sequelae are limited to severe forms of Covid-19 or to elderly patients. The mechanisms are not well understood, but hypotheses have been raised and studied (neurovascular, consequence of hypoxia, chronic inflammation, etc.) (7-8).

In the event of persistent symptoms, the question of whether to consider as sequels the neurological, neurocognitive or psychiatric disorders observed, may be difficult to confirm without formal neuropsychological examinations, even though this detection is not currently included in the care protocols and, that particularly in the elderly, post-Covid-19 cognitive decline must be differentiated from a "natural" decline.

While the impact on the personal, professional and social life of patients can be considerable, the terms of care remain to be defined.

Due to the high number of patients with Covid-19 infection, the French National Academy of Medicine:

- warns about the risk of a substantial increased burden on the health care system linked to lasting cognitive impairment due to this viral infection,
- sets up a dedicated working group, entitled "Covid and the nervous system", in order to better understand the acute neurological forms of Covid-19 and the neuropsychiatric symptomatology described in the prolonged forms,

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- stresses the importance of studying, in particular, the long-term consequences and social burden of these prolonged neurological and psychiatric forms, as well as the possibilities of their preventive or curative treatment.

## References

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